Nebraska Statewide Telehealth Network
Update to the Nebraska Information Technology Commission Meeting

June 3, 2004

Prepared by Dave Glover, Telehealth Consultant for the Nebraska Hospital Association

The following is an update regarding the activities of the Nebraska Statewide Telehealth Network (the Network).

I have broken down the update into the following sections:
1) Overall status of the Network
2) Equipment
3) Connectivity (statewide backbone)
4) Technical Issues
5) Funding
6) Security and Confidentiality
7) Assessment and Evaluation

1. Overall status of the Network
We have made some significant advances in moving toward the implementation of the initial phase of the Network. We are now at the stage of putting in place the equipment, technical connections and statewide backbone for the Network. In addition we have made some significant progress in identifying the reimbursement and funding needs and sources for the Network. We are targeting this summer to actually put into place the necessary connections to allow us to have the overall system in place and functioning.

2. Equipment
Our initial focus was on the endpoint equipment for the hospitals throughout the Network. In order to assess the status of equipment, we performed a survey of all hospitals throughout the State. In that survey we identified that roughly 1/3 of the hospitals had appropriate equipment, 1/3 were in line to obtain equipment through a grant program or other source, and 1/3 had no source for equipment. We have been working with the Nebraska Health and Human Service Department, specifically the Bioterrorism section, to identify funding sources for those remaining hospitals. The listing of hospitals that either had no equipment or had equipment in need of updating has been submitted to NHHSS for their consideration. We are hopeful and anticipating that they will be able to provide the monies to equip the identified hospitals. In addition to the actual video conferencing equipment, we have been working to identify the additional needs of the endpoint hospitals for upgraded routers and firewalls within their institutions. In working with the Nebraska Public Service Commission, we have proposed that if that equipment can be provided as a service by the communications carrier serving the hospital, that the cost would be a part of the support by the NPSC. We are awaiting the final decision by the Commission on this issue. However, we are hopeful of their approval. We have also identified the necessary routers and other equipment necessary for the Network's statewide backbone to operate efficiently.

3. Connectivity

The Network is proposing to connect through a series of hub sites and is anticipating the ability to purchase at the same tariff rate as the State of Nebraska in its backbone. We have been greatly aided by the efforts of Steve Schafer, Nebraska Chief Information Officer; Brenda Decker, Director of the Division of Communications; and Gene Hand, Director of Communications for the Nebraska Public Service Commission; in meeting with various telephone companies and others to help make that purchasing possible. The hubsites that have been identified at this time include:

- Regional West Medical Center, Scottsbluff
- Great Plains Regional Medical Center, North Platte
- Good Samaritan Health System, Kearney
- St. Francis Medical Center, Grand Island
- St. Elizabeth Regional Medical Center, Lincoln
- BryanLGH Medical Center, Lincoln
- The University of Nebraska Medical Center, Omaha

I have attached a copy of the proposed map of connectivity. However, I would caution that it is a proposed map and certain changes in connection will continue to take place. As you will note the connectivity will include both telephone carriers and fiber. We are anticipating that we will be using various sizes of transmission capability as we begin the network.

4. Technical Issues

A brief summary of the technical decisions and issues would include:

- The network will be a private, IP-based network and will adhere to the State video and audio standards as they are revisited and potentially revised.
- Polycom endpoint equipment is being used as the standard although other types do exist currently.
- Specifications for upgraded routers at the endpoint hospitals have been developed and are being approved to provide some continuity in the State.
- Specifications for firewall applications are also being reviewed to provide continuity.
- A review of the GateKeeper product is being undertaken to determine its appropriateness within the Network.
- A review of various scheduling software possibilities has begun and will have additional demonstrations in June.

A Network Operations Team has been agreed upon by the Hub site hospitals and will contain representation from the technical staffs of each of the Hub hospitals. The team will be used to determine standards, monitor network usage and manage change in the Network. The Network will not involve Internet services.

5. Funding

Significant interaction has taken place with the Universal Services Administrative Company (USAC) which oversees the Federal Universal Services Fund (FUSF). Changes in their support levels (effective on July 1, 2004) will do the following:

- Allow for support on individual T-1 lines down to the level of $250 per month, in other words, the endpoint hospitals will only have to pay $250 of the cost of T-1 line transmission costs on eligible lines.
- Beginning on July 1, 2004, rural hospitals will also be eligible for having up to 25% of their Internet costs covered

In addition, it has been determined that the FUSF will also pay the majority of any Federal Universal Service Fund fees (currently at approximately 8.75% of the cost of transmission per line) and/or the State Universal Service Fund fees (currently at 6.9% of the cost of transmission per line). This is not a new item, however it has not been something that has been taken advantage of in the State of Nebraska.

The Nebraska Hospital Association is assisting hospitals in filing for this support in a format that has been approved by the USAC office in Washington, D.C. A template has been developed and a technical support group has been developed. In addition, the various hospital networks are working with the rural hospitals in the ordering and installation of the T-1 lines throughout the State.

The Nebraska Public Service Commission staff, particularly Gene Hand and Jeff Pursley, have been extremely helpful in developing a methodology for the identification of costs eligible for funding. The proposal to be submitted for final approval would include a retroactive support for 2003-2004 for those already providing telehealth services, would clarify the eligible hospitals to include all hospitals in the State that are outside of the metro areas and the hub site hospitals. In addition, the proposal to the NPSC would include the coverage of services by the certified carriers such as endpoint routers and firewalls as well as routers serving some of the hub sites. It is anticipated that the actual costs to the NPSC will be less than those budgeted. The anticipated costs and methodologies for these costs have been reviewed and are now being finalized. It is anticipated that the final costs to the endpoint hospitals will not exceed $200 per month per site for a single line. The issue of multiple lines past the retroactive year is still being reviewed.

6. Security and Confidentiality

The issues of security for the Network and confidentiality with regard to the use of the Network are also being addressed. Security concerns have prompted the review of firewall technology thoughout the users and is an important aspect of having a Network that is practical and secure. A Subcommittee has been formed that is developing the recommendations to address HIPPA and other confidentiality issues.

7. Assessment and Evaluation

The Assessment and Evaluation Subcommittee has developed the process for assessing the Network and its use. Their recommendations have been shared with the NPSC and input from that group has already been incorporated. The issue of measurement of the Network is being finalized through interaction with the Technical Subcommittee.

Nebraska Hospital Network

Legend:
- Public Health Labs
- Nebraska Critical Access Hospitals
- Kansas Critical Access Hospitals
- Rural Hospitals
- State Network Core Site
- Regional Hub Hospital

Connections:
- Teleradiology Frame Relay Connections
- Teleradiology via Internet Connections
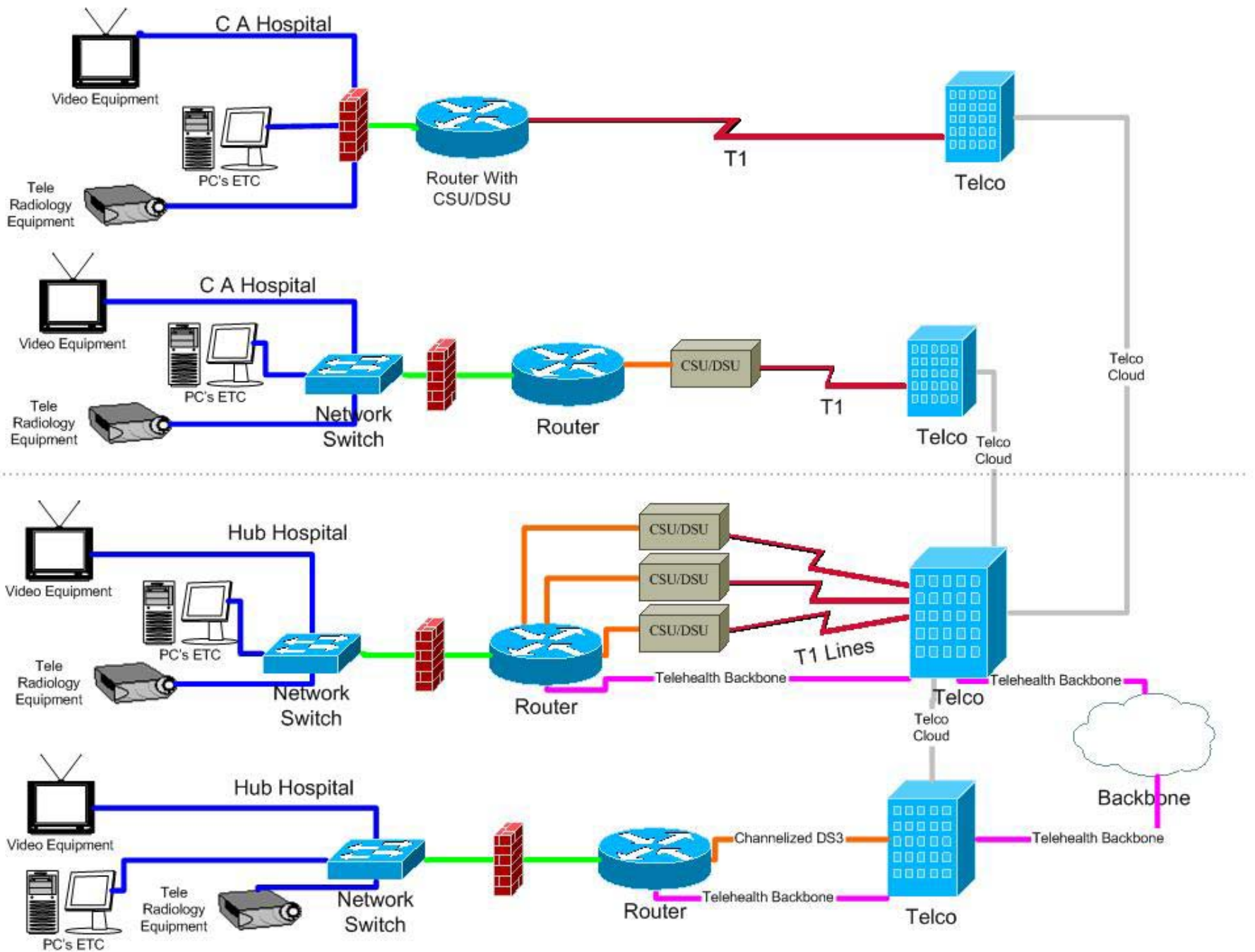- Video Connections
- TeleHealth Network
- State Network
- ByronICHTHA

Nebraska Hospitals
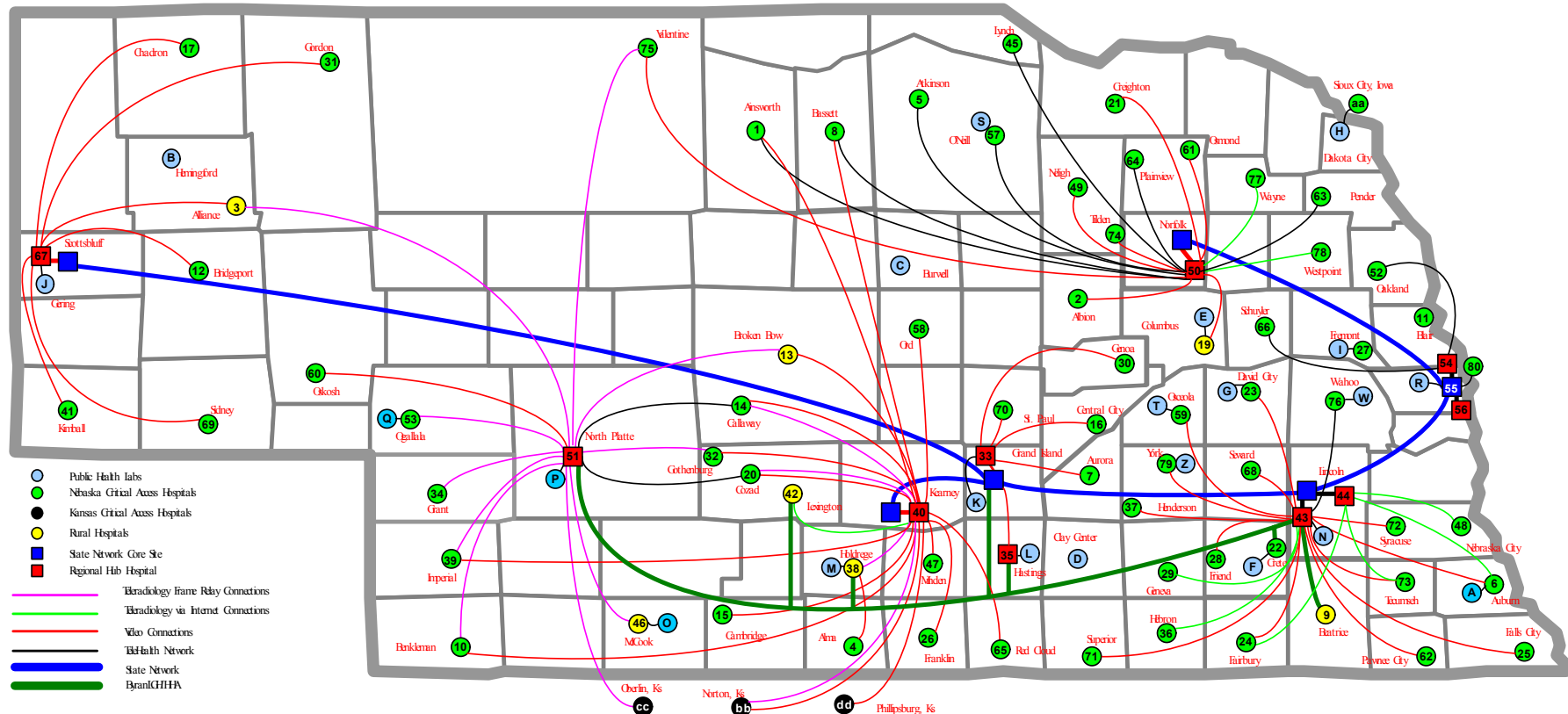
#	City	Hospital	#	City	Hospital	#	City	Hospital
1.	Ainsworth	Brown County	28.	Friend	Warren Memorial	55.	Omaha	University of Nebraska Medical Ctr
2.	Albion	Boone County	29.	Geneva	Fillmore County	56.	Omaha	Alegant Health Immanuel
3.	Alliance	Box Butte General	30.	Genoa	Genoa Community	57.	O'Neill	Avera St. Anthony's
4.	Alma	Harlan County	31.	Gordon	Gordon Memorial	58.	Ord	Valley County
5.	Atkinson	West Holt	32.	Gothenberg	Gothenberg Memorial	59.	Osceola	Annie Jeffrey
6.	Auburn	Nemaha County	33.	Grand Island	St. Francis Medical Center	60.	Oskosh	Garden County
7.	Aurora	Memorial	34.	Grant	Perkins County	61.	Osmond	Osmond General
8.	Bassett	Rock County	35.	Hastings	Mary Lanning Memorial	62.	Pawnee City	Pawnee County
9.	Beatrice	Beatrice Community	36.	Hebron	Thayer County	63.	Pender	Pender Community
10.	Benkelman	Dundy County	37.	Henderson	Henderson Health Services	64.	Plainview	Plainview Public
11.	Blair	Memorial Community	38.	Holdrege	Phelps Memorial	65.	Red Cloud	Webster County
12.	Bridgeport	Morrill County	39.	Imperial	Chase County	66.	Schuyler	Alegent Health
13.	Broken Bow	Jennie Melham	40.	Kearney	Good Samaritan Health Sys	67.	Scottsbluff	Regional West Medical Center
14.	Callaway	Callaway District	41.	Kimball	Kimball County	68.	Seward	Seward Memorial
15.	Cambridge	Tri-Valley	42.	Lexington	Tri-County	69.	Sidney	Memorial Health
16.	Central City	Litzenberg Memorial	43.	Lincoln	Bryan/LGH	70.	St. Paul	Howard County
17.	Chadron	Chadron Community	44.	Lincoln	St. Elizabeth's	71.	Superior	Broadstone Memorial
18.	Clay Center	Clay County	45.	Lynch	Niobrara Valley	72.	Syracuse	Community Memorial
19.	Columbus	Columbus Community	46.	McCook	Community Hospital	73.	Tecumseh	Johnson County
20.	Cozad	Cozad Community	47.	Minden	Kearney County	74.	Tilden	Tilden Community
21.	Creighton	Creighton Area	48.	Nebraska City	St. Mary's	75.	Valentine	Cherry County
22.	Crete	Crete Area	49.	Neligh	Antelope Memorial	76.	Wahoo	Saunders County
23.	David City	Butler Area	50.	Norfolk	Faith Regional Health Srvcs	77.	Wayne	Providence
24.	Fairbury	Jefferson County	51.	North Platte	Great Plains Regional Medical Ctr	78.	West Point	St. Francis
25.	Falls City	Community Medical Ctr.	52.	Oakland	Oakland Memorial	79.	York	York General
26.	Franklin	Franklin County	53.	Ogallala	Ogallala Community Hospital	80.	Omaha	Creighton Hospital
27.	Fremont	Fremont Area	54.	Omaha	Nebraska Medical System			

Nebraska Public Health Depts.

	City	Department
A.	Auburn	Southeast District Health Dept.
B.	Hemingford	Panhandle Public Health Dept.
C.	Burwell	Loup Basin Public Health Dept.
D.	Clay Center	Clay County Health Dept.
E.	Columbus	East Central District Health Dept.
F.	Crete	Public Health Solutions
G.	David City	Butler County Health Dept
H.	Dakota City	Dakota County Health Dept.
I.	Fremont	Three Rivers Health Dept.
J.	Gering	Scotts Bluff County Health Dept.
K.	Grand Island	Central District Health Dept.
L.	Hastings	South Heartland District Health Dept.
M.	Holdrege	Two Rivers Public Health Dept.
N.	Lincoln	Lincoln-Lancaster County Health Dept.
O.	McCook	Red Willow County Health Dept.
P.	North Platte	West Central District Health Dept.
Q.	Ogallala	Sandhills District Health Dept.
R.	Omaha	Douglas County Health Dept.
S.	O'Neill	North Central District Health Dept.
T.	Osceola	Polk County Health Dept.
U.	Papillion	Sarpy/Cass Dept. of Health and Wellness
V.	Trenton	Southwest Nebraska Public Health Dept.
W.	Wahoo	Saunders County Health Dept.
X.	Wayne	Northeast Nebraska Public Health Dept.
Y.	Wisner	Elkhorn Logan Valley Public Health Dept.
Z.	York	Four Corners Health Dept.

Hospitals From Other States

aa.	Sioux City, Iowa	
bb.	Norton, Ks	Norton County Hospital
cc.	Oberlin, Ks	Decatur County Hospital
dd.	Phillipsburg, Ks	Phillips County Hospital

Revised: 4/19/2004 LLR

C A Hospital

Video Equipment

Tele Radiology Equipment

PC's ETC

Router With CSU/DSU

T1

Telco

C A Hospital

Video Equipment

Tele Radiology Equipment

PC's ETC

Network Switch

Router

CSU/DSU

T1

Telco

Telco Cloud

Hub Hospital

Video Equipment

Tele Radiology Equipment

PC's ETC

Network Switch

Router

CSU/DSU
CSU/DSU
CSU/DSU

T1 Lines

Telehealth Backbone

Telco

Telehealth Backbone

Telco Cloud

Backbone

Hub Hospital

Video Equipment

Tele Radiology Equipment

PC's ETC

Network Switch

Router

Channelized DS3

Telehealth Backbone

Telco

Telehealth Backbone

Telco Cloud

LCC 04/02/04

TELEHEALTH BACKBONE

HUB SITES

HUB SITES

Router

Router

6 T1's

Router

10 Meg Ethernet

Router

Router

45 Meg connection with 10 Meg Vlan

Router

LCC 04/05/04